What Is Claimed Is:

1. A sensor element (10), in particular for detecting a gas component in a measuring gas, preferably for determining the oxygen concentration in the exhaust gas of an internal combustion engine, having a conductor track (101) applied to a solid electrolyte (21, 22), the conductor track including an electrode (101a) situated in a measuring area (11) of the sensor element (10) and an electrode lead (101b) connected to the electrode (101a) and situated in a lead area (12) of the sensor element (10), a heater element (51) for heating the measuring area (11) of the sensor element (10) being provided, wherein the conductor track (101) has a narrowing (60) in a transition area (13) between the measuring area (11) and the lead area (12).

2. The sensor element as recited in Claim 1, wherein the conductor track (101) has a smaller cross-sectional area in the area of the narrowing (60) than in the area of the conductor track adjacent to the narrowing (60).

3. The sensor element as recited in Claim 1 or 2, wherein the narrowing (60) reduces the heat conduction along the conductor track (101) from the measuring area (11) into the lead area (12).

4. The sensor element as recited in one of the preceding claims, wherein the cross-sectional area of the conductor track (101) in the area of the narrowing (60) is at most 70 percent, in particular at most 50 percent, of the cross-sectional area of the conductor track (101) in a section of the conductor track (101) adjacent to the narrowing (60), the cross-sectional area being in a plane

perpendicular to the heat gradient forming when the measuring area (11) of the conductor track (101) is heated.

5. The sensor element as recited in one of the preceding claims,
wherein in the area of the narrowing (60), the ratio $A/b \leq 0.1$ mm, preferably $A/b \leq 0.02$ mm, is met, A being the cross-sectional area of the conductor track (101) in a plane perpendicular to the longitudinal axis of the sensor element (10), and b being the width of the conductor track (101), i.e., the extent of the conductor track (101) in this plane in a direction parallel to the major surface of the sensor element (10).

6. The sensor element as recited in one of the preceding claims,
wherein the narrowing (60) of the conductor track (101) includes at least one recess (61, 62).

7. The sensor element as recited in Claim 6,
wherein the recess (62) is slot-shaped and has a longer side and a shorter side, the longer side of the recess (62) being approximately perpendicular to the longitudinal extension of the conductor track (101) and/or approximately perpendicular to the heat gradient formed in the conductor track (101) by the heating of the measuring area (11).

8. The sensor element as recited in Claim 6,
wherein the section of the conductor track (101) has a plurality of recesses (61), and the conductor track (101) has a netlike structure in the area of the recesses (61).

9. The sensor element as recited in Claim 8,
wherein the recesses (61) are offset to one another in

relation to the longitudinal axis of the conductor track (101).

10. The sensor element as recited in one of the preceding claims,
wherein in the area of the narrowing (60), the ratio $b/c \leq 0.8$, preferably $b/c \leq 0.5$, b being the width of the conductor track (101), i.e., the extension of the conductor track (101) in a direction perpendicular to the longitudinal extension of the conductor track (101) and parallel to the major surface of the sensor element (10), and c being the sum of the widths of the individual conductor track sections (105) separated by the recesses (61, 62).

11. The sensor element as recited in one of the preceding claims,
wherein the narrowing (60) is designed as a constriction (63), the width of the conductor track (101) in the area of the constriction (63) being smaller than in the areas of the conductor track (101) adjacent to the constriction (63).

12. The sensor element as recited in Claim 11,
wherein the width of the conductor track (101) in the area of the constriction (63) is at most 70 percent, in particular at most 50 percent, of the width of the conductor track (101) in an area of the conductor track (101) adjacent to the constriction (63).

13. The sensor element as recited in one of the preceding claims,
wherein the conductor track (101) is situated in a layer plane between a first solid electrolyte sheet (21) and a second solid electrolyte sheet (22).

14. The sensor element as recited in one of the preceding claims,
wherein the height of the conductor track (101), i.e., the extension of the conductor track (101) in the direction perpendicular to the major surface of the sensor element (10) is in the range of 4 μm to 20 μm, preferably in the range of 5 μm to 10 μm.

15. The sensor element as recited in one of the preceding claims,
wherein the sensor element (10) has an electrochemical cell having a first electrode (31a), a second electrode (32a), and a solid electrolyte sheet (21) situated between the first and second electrodes (31a, 32a), the first electrode (31a) being applied to an external surface of the sensor element (10), amd the second electrode (32a) being provided in a measuring gas space (41), situated within the sensor element (10), which is connected to the measuring gas located outside the sensor element (10) via a gas inlet opening (43) and a diffusion barrier (42), and the sensor element (10) has a second electrochemical cell which includes the second electrode (32a) and/or a third electrode (33a), as well as a fourth electrode (34a), the second and/or third electrodes (32a, 33a) being electrically connected via a solid electrolyte (21, 22), the third electrode (33a) being situated within the measuring gas space (41), the fourth electrode (34a) being exposed to a reference gas, and the conductor track (101) having a narrowing (60) encompassing the second and/or the third electrodes (32a, 33a) and the third lead (33b).

16. The sensor element as recited in Claim 15,
wherein the area of the conductor track (101) having the narrowing (60) is situated between the fourth electrode

(34a) and the heating element (51), so that the fourth electrode (34a) is electrically insulated and/or electrically shielded from the heating element (51) by the area of the conductor track (101) that includes the narrowing (60).

17. The sensor element as recited in Claim 16, wherein the narrowing (60) is designed as at least one recess (61, 62).

18. The sensor element as recited in Claim 15, wherein the conductor track has a strip (92) in the area of the narrowing (60), which runs along the projection of the contour of the fourth electrode (34a) onto the layer plane of the third electrode (33a).

19. The sensor element as recited in Claim 18, wherein the width of the strip (92) is at least 0.5 mm.

20. The sensor element as recited in one of the preceding claims, wherein the conductor track (101) includes a gas diffusion-inhibiting section (71), which prevents or at least slows down the gas exchange between the electrode (101a) and the lead (101b) of the conductor track (101).

21. The sensor element as recited in Claim 20, wherein the proportion of pores in the diffusion-inhibiting section (71) is smaller than the proportion of pores in the electrode (101a).

22. The sensor element as recited in Claim 21, wherein the proportion of pores in the diffusion-inhibiting section (71) is in the range of 1 to 10 percent by volume, preferably 3 to 7 percent by volume, and the proportion of pores in the electrode (101a) is in

the range of 10 to 50 percent by volume, preferably 20 to 30 percent by volume.

23. The sensor element as recited in one of Claims 20 through 22,
wherein the conductor track (101) has a metallic portion and a ceramic portion, and the ceramic portion of the diffusion-inhibiting section (71) of the conductor track (101) is smaller than the ceramic portion of the electrode (101a) of the conductor track (101), the ceramic portion of the diffusion-inhibiting section (71), in particular, being in the range of 10 to 40 percent by volume, preferably in the range of 15 to 30 percent by volume, and the ceramic portion of the electrode (101a) being in the range of 15 to 50 percent by volume, preferably in the range of 20 to 40 percent by volume.

24. The sensor element as recited in one of Claims 20 through 23,
wherein the electrode (101a) has an open porosity, and the diffusion-inhibiting section (71) has a closed porosity.

25. The sensor element (10), in particular as recited in one of the preceding claims, in particular for detecting a gas component in a measuring gas, preferably for determining the oxygen concentration in the exhaust gas of an internal combustion engine, having a conductor track (101) applied to a solid electrolyte (21, 22), which includes an electrode (101a) provided in a measuring area (11) of the sensor element (10), and an electrode lead (101b) leading to the electrode (101a) and situated in a lead area (12) of the sensor element (10), a heating element (51) for heating the measuring area (11) of the sensor element (10) being provided,

wherein the electrode (101a) includes a first electrode section (81) and a second electrode section (82), the first electrode section (81) being connected to the electrode lead (101b) in a transition area (13) between the measuring area (11) and the lead area (12), and the first and second electrode sections (81, 82) being electrically connected (85) to one another only on their sides facing away from the lead area (12).

26. The sensor element as recited in Claim 25, wherein the second electrode section (82) has an annular shape and its side facing the lead area (12) has a recess (83) in which the first electrode section (81) is situated.

27. The sensor element as recited in Claim 25 or 26, wherein the electrode (101a) having the first and second electrode sections (81, 82) is the first electrode (31a).